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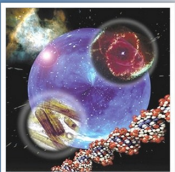
Friday, November 4, 2011

Time: 3:00 p.m. - 4:00 p.m.

BB 3.04.18

Coherent Coupling between Quantum Dots and a Quantum Well

We present experimental results and corresponding discussion of coupling between a photo-excited quantum-dot layer and quantum well. The coupling is understood by investigating the dependence of quantum-dot photoluminescence as a function of dot-well barrier thickness. For small thickness of the dot-well barrier, the signal shows an anomalous low intensity behavior. This behavior is explained by sub-picosecond tunneling between the quantum dot layer and quantum well. As the barrier thickness increases the quantum-dot photoluminescence signal increases at first but then again decreases. This and other unusual behavior of the communication between a quantum-dot layer and quantum well will be discussed.

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